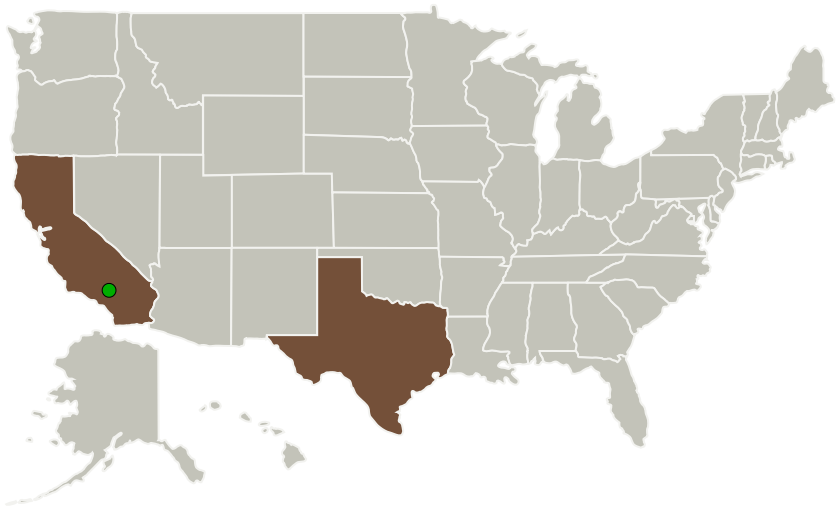
Cloud-Based Electronic Test Procedures, Phase I

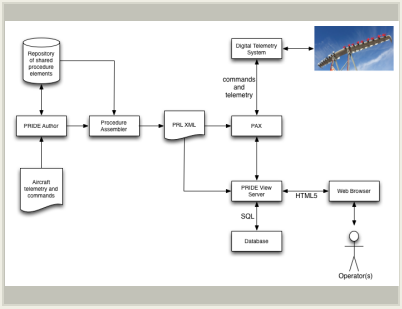
Completed Technology Project (2016 - 2016)

Project Introduction

Test procedures are at the heart of any experimental process, especially those involving novel and complex hardware. Whether these procedures are for system check-out, experimental set-up, data collection, or operating the test article, following appropriate procedures and auditing the results of these procedures brings rigor and repeatability to the experimental process. Typically, test procedures are written in Microsoft Word or Excel and then printed out. Data entry is done by pen and pencil with little to no data captured electronically. This increases the error rate in procedures and reduces efficiency. A cloud-based test procedure system provides procedures via web browsers on tablets or laptops and guides the user through the procedure step-by-step. Electronic test procedures can capture and display data automatically and provide a record of procedure performance. Common procedure elements can be re-used and shared across multiple projects and programs. Custom displays can be generated from the same procedure content for use on-board in addition to on the ground. TRACLabs proposes to extend its existing electronic procedure system, PRIDE, to capture the unique requirements of NASA flight test projects. PRIDE is currently being used on a variety of NASA projects, including the International Space Station (ISS), and by an increasing number of commercial customers. PRIDE replaces the document-oriented test procedures currently in use with information-oriented procedures that are flexible and optimized for on-line performance. The result will be an extensible electronic test procedure system that can be utilized across all of NASA's aeronautical test facilities and programs.

Primary U.S. Work Locations and Key Partners





Cloud-based Electronic Test Procedures, Phase I

Table of Contents

Cloud-Based Electronic Test Procedures, Phase I

Completed Technology Project (2016 - 2016)

Organizations Performing Work	Role	Type	Location
TRACLabs, Inc.	Lead Organization	Industry	Webster, Texas
Armstrong Flight Research Center(AFRC)	Supporting Organization	NASA Center	Edwards, California

Primary U.S. Work Locations	
California	Texas

Project Transitions

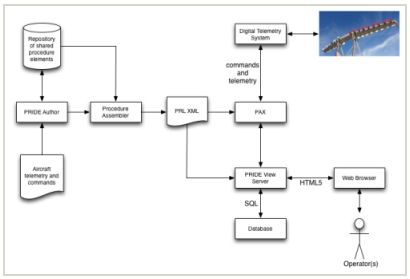
June 2016: Project Start

December 2016: Closed out

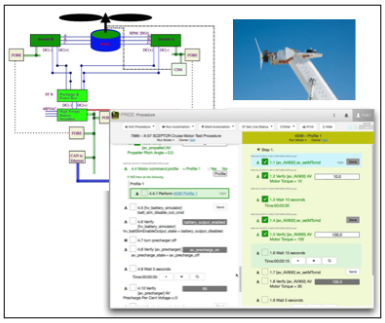
Closeout Documentation:

- Final Summary Chart*(https://techport.nasa.gov/file/139788)*

Images



Briefing Chart Image
Cloud-based Electronic Test Procedures, Phase I
(https://techport.nasa.gov/image/129074)



Final Summary Chart Image
Cloud-based Electronic Test Procedures, Phase I Project Image
(https://techport.nasa.gov/image/136524)

Organizational Responsibility

Responsible Mission Directorate:
Space Technology Mission Directorate (STMD)

Lead Organization:
TRACLabs, Inc.

Responsible Program:
Small Business Innovation Research/Small Business Tech Transfer

Project Management

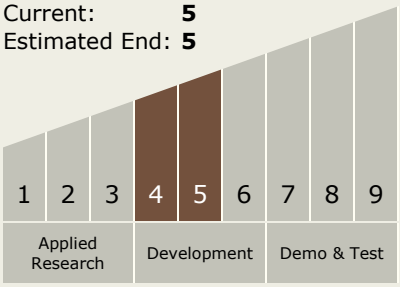
Program Director:
Jason L Kessler

Program Manager:
Carlos Torrez

Principal Investigator:
David M Kortenkamp

Technology Maturity (TRL)

Start: **4**
Current: **5**
Estimated End: **5**



Cloud-Based Electronic Test Procedures, Phase I

Completed Technology Project (2016 - 2016)

Technology Areas

Primary:

- TX13 Ground, Test, and Surface Systems
  - TX13.2 Test and Qualification
    - TX13.2.5 Flight and Ground Testing Methodologies

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System